KBR
Energy Management

Operating instructions
Technical Parameters

multisys D2-ESBS
KBR eBus-Modulbus (ESBS)

multisys D2-ESBS
Modulbus-KBR eBus (BSES)

In our download centre you will find the appropriate instructions for KBR devices.

https://www.kbr.de/en/download/operating instructions/

System | english

15245_EDEBDA0184-0525-1_EN

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1 multisys D2-ESBS / multisys D2-BSES

The **multisys D2-ESBS / multisys D2-BSES** connects the KBR eBus to the KBR multisys modules.

The two interfaces (RS-485 on the KBR eBus side and RJ-12/RS-485 on the module bus side) are galvanically separated from each other.

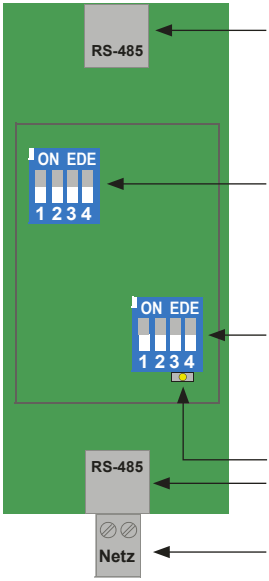
The voltage supply for the **KBR multisys modules** is via **multisys D2-ESBS**.
The **multisys D2-ESBS** / **multisys D2-BSES** is equipped with a power LED for supply voltage monitoring, a power supply (85 to 265 V AC/DC; 2VA) and is suitable for wall mounting on a 7.5 mm deep DIN rail, in accordance with DIN EN50022 (for distribution board mounting)

NOTE

If two gateways are used (**multisys D2-BSES** and **multisys D2-ESBS**),
the module bus distance can be extended to 1,000 m maximum (RS-485 standard).

2 Interfaces KBR eBus RS-485 and module bus multisys D2-ESBS

The RS-485 interfaces are set to the KBR eBus parameters 38400 baud, 8 data bits, parity even, 1 stop bit. They can be terminated using two 4-fold DIL switches (terminating resistors are integrated into the multisys).



Output
Module bus connection RJ-12/RS-485, output side

Output side DIP-2

S1, S2	Off = no failsafe termination On = failsafe termination activated
S3	Off = no termination On = normal line termination (120 Ohm)
S4	Off = no operating voltage at module bus On = 24 V activated at module bus

Input side DIP-1

S1, S2	Off = no failsafe termination On = failsafe termination activated
S3	Off = no termination On = normal line termination (120Ohm)
S4	not connected

LED for monitoring power supply
Input RS-485 for the KBR eBus (3 pole multi-pin connector, 3.5 mm)
Terminal No. 90 = Gound, 91 = A, 92 = B
(in accordance with KBR terminology)
Supply voltage 85 - 265V AC/DC; 2VA (2 pole multi-pin connector, 5 mm)

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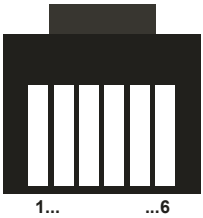
3 Module bus connections RJ-12/RS-485

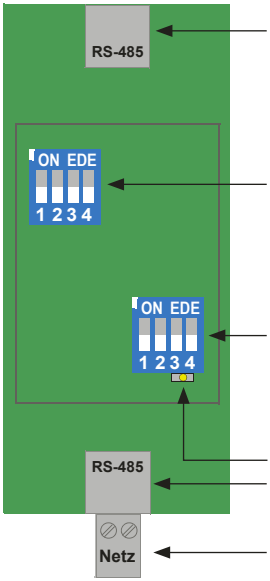


Terminal assignment:

Pin 1: Ground
Pin 2: Ground
Pin 3: RT+ (A (Bus RS-485))
Pin 4: RT- (B (Bus RS-485))
Pin 5: + 24 V
Pin

4 KBR eBus RS-485 and module bus multisys 3D2-BSES interfaces

The RS-485 interfaces are set to the KBR eBus parameters 38400 baud, 8 data bits, parity even, 1 stop bit. They can be terminated using two 4-fold DIL switches (terminating resistors are integrated into the multisys).



Output
RS-485 for the KBR eBus (3 pole multi-pin connector, 3.5 mm), output side Terminal No. 90 = Ground, 91 = A, 92 = B (in accordance with KBR terminology)

Output side DIP-2

S1, S2	Off = no failsafe termination On = failsafe termination activated
S3	Off = no termination On = normal line termination (120Ohm)
S4	not connected

Input side DIP-1

S1, S2	Off = no failsafe termination On = failsafe termination activated
S3	Off = no termination On = normal line termination (120Ohm)
S4	not connected

LED for monitoring power supply
Input Module bus connection RJ-12/RS-485

Supply voltage 85 - 265 V AC/DC; 2 VA
(2 pole multi-pin connector, 5 mm)

NOTE

The failsafe termination can only be actived once per bus segment

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5 Operating modes

The **multisys D2-ESBS** / **multisys D2-BSES** can be used as a bus amplifier for line expansions or as a star coupler for stubs.

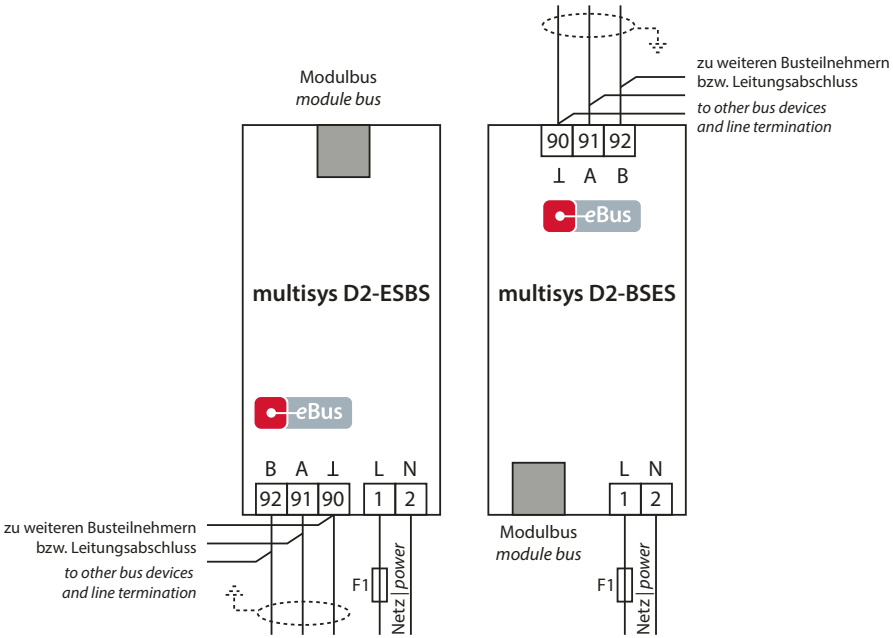
6 Bus amplifier

When used as a bus amplifier, the terminating resistors at the input and output side have to be activated.

7 Star coupler

Usually, star networks are not permitted in RS-485 networks. The **multisys D2-ESBS** enables you to create a branch. When used as a star coupler, the terminating resistor at the input side has to be deactivated, and the one at the output side activated.

8 Connection chart



For voltage supply, see nameplate

9 Technical data

Power supply:		
Power supply		85 - 265 V AC/DC ; 2 VA; 50/60 Hz
Electrical connection		
Connection elements		Plug-in terminals
Zulässiger Querschnitt der Anschlussleitungen		Spannungsversorgung 2,5 mm² Busanschluss 1,5 mm²
Input control voltage	Fuse protection	max. 6 A
Module bus connection	—	RJ-12 modular connector: 6P6C
Module bus connection	Connection material	Modularkabel 6-polig
KBR eBus-connection	Connection material	Für den korrekten Betrieb nur abgeschirmte und paarig verdrillte Leitungen verwenden; z.B. I-Y(St)Y EIB 2x2x0,8
KBR eBus-connection	über RS-485	Terminal 90 (⊥) Terminal 91 (A) Terminal 92 (B)
Mechanical data:		
Top hat rail device	Housing measures	90 x 36 x 61 mm (H x W x D),
	Mounting type	Wall mounting on DIN rail 7.5 mm deep, in accordance with DIN EN 50022
	Weight	approx. 120 g
Standards and other:		
Environmental conditions	Standards	DIN EN 60721-3-3/A2: 1997-07; 3K5+3Z11; (IEC721-3-3; 3K5+3Z11)
	Operating temperature	-5 °C ... +60 °C
	Humidity	5 % ... 95 %, non-condensing
	Storage temperature	-25 °C … +70 °C
Electrical safety	Standards	DIN EN 61010-1/A2: 1996-05; (IEC1010-1/A2)
	Protection class	I, acc. to DIN EN 61010-/A2: 1996-05
	Overvoltage category	CAT III: U_{PH-PH} to 400 V
	Degree of protection	IP20 nach DIN EN 40050 part 9: 1993-05
	Electromagnetic compatibility	DIN EN 61000-6-3: 2005-06; (IEC 61000-6-3) DIN EN 61000-6-2: 2006-03; (IEC 61000-6-2)

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